Wheelhouse Design and Making

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Sundowner – 13

The Wheelhouse is the largest single and obvious piece of the deck furniture, and it is the bit that will make or mar the model. I want to make it as a removeable 'box' with the interior modelled as the real thing (including a 150mm high man as the 'skipper' if I can find one). The 'above deck' bits are about 100mm high, with something like 75mm below deck level. I have already made the interior bits (motor location, gearbox etc) to avoid this, so it should be practicable.

The curved part (apparently a semi circle) is only deck height and on the real thing that is where the steering wheel and other instruments etc fit. A close look at photos shows that the shape is a true curve and only the windows and their frames are straight, so I decided to base it on curved main wooden sections at the base (there are two here), at mid height and at roof height. These can then be separated and held up with vertical straight pieces let into each curved beam corresponding to the window frame uprights. The deck at this point is *nearly* flat but not quite thanks to the 'sheer' (fore and aft curve) and the beam curvature, and measuring it up, there is about 10mm of variation – on the model - from the horizontal in beam and length directions. The photos also indicate that the lower of the base ones is a 'mount' and flattens the deck for the rest. Using the photos as guides and with calipers scaling the sizes, the bottom one needed to be 20mm deep to allow for trimming to match the deck lines, and I decided to make all of the beams and uprights from 12mm thick wood. My stock pile now showed its limitations and I had to buy some wood: I choose some planed 12mm thick beech from a local hardwood stockist. This is straight grained, the right thickness and beech is supposed to be easy-ish to bend. Given the bend is quite tight (100mm radius) and the wood is 12mm thick, I thought I had better start with the deepest piece in case this was not going to work and I had to adopt a plan B (like laminating thinner bits etc). I made a jig from an old bit of kitchen top (skips y'know) and found a piece of 16 gauge steel strip as a backing. I soaked the piece of beech in the bath for 24 hours (it is kiln dried and it is recommended to soak it first) and then, using the wallpaper steamer as before, steamed the beech for an hour or so. The next bit you have to move fast and have everything like clamps etc ready as as soon as you remove it from the heat it cools and 'sets' quickly. Clamping the wood and the backing steel at the start of the curve, I then swept it round the curve adding clamps as I went. It is really a three hand job, but I managed OK. There was much creaking and a couple of splinters

showed, but otherwise it went round and there it sits until dry. Bearing in mind a lot of this piece will be cut away to match the deck profile, I think I can arrange the splinters to get lost in the waste (or just glue them back). One of these you can see (just) at the bottom of the 'U'. Future bends will be in less deep pieces and the steel (I only had a suitable piece 20mm deep!) will support it better (I hope).

The wood cooled off and dried within 24 hours (enough to work on anyway) and the first question was what would happen when I released the clamps. When bending using steam and heat, the wood fibres are persuaded to take up a new shape and 'set' there (apart from a small 'spring back'), so a little tension is to be expected after cooling, but not a lot! And so it proved: the spring back was about 25mm at the straight ends, however (there is always a however), the cause of a lot of the creaks were more apparent now with some cracks at the apex of the U mainly. I suspect that this is caused because of inadequate penetration of water and steam in spite of the standard 'one hour per inch of thickness' (that I doubled), bearing in mind the wood is 'kiln dried' and not ideal for steam bending. I filled these with wood glue and put it all back in the clamping frame for 24 hours (with some greaseproof paper from the kitchen to stop it sticking to the frame). The result was a messy with glue overspill but sound U bend that I could work on. I glued a stretcher across the rear and clamped it at the highest points of the deck, adjusting it to be level with some little wooden wedges and drawing round it with a suitably thick piece of wood and a pencil to copy over the deck profile. I cut this with a combination of a jig saw and filing and sanding. Another workshop tool I have came very useful for this: a horizontal linisher (old and heavy but powerful and robust). The result is a piece that fits the deck profile and ready to be used as the base for the cabin, growing downwards for the lower bit and upwards for the top. The dark marks are glue marks that can be dyed in this case as it is a dark wood construction, and I could sand away the surface in this case enough for the dye to take.

Since it seemed to work, I cut out all of the other pieces to be bent from the beech plank and set about doing this one at a time: soak in the bath, bend and leave to cool/dry, repair cracks and leave them to dry. I can work on the piece I have made though between drying times…

With varying degrees of success and application of glue and re-clamping, I eventually produced the necessary four horseshoe shaped bits for the wheelhouse. They are even nearly the same size, although variations in drying time produced some twists here and there. One of the benefits of the very hot summer was that I could straighten out the warped bits, clamp in position and leave in the sun for a few hours, this seemed to 'set' it OK. I fixed all of them by fitting the straight bit across the rear (I did use brass screws here to hold them securely which will need disguising somehow). To the top one, I also fitted some roof beams after reference to a photo of the inside of the real thing I found: the roof is slightly curved and I had to steam bend a couple of pieces of beech to cut these from, it seemed easier to do it this way than cut them curved!

The uprights around the periphery of the wheelhouse were cut from some more of the beech. Now these need to fit into halving joints in each horsehoe and there is little latitude in adjustment, so I need to take care over this. To help things along a bit, the panelling below the centre horsehoe is rebated into the uprights all round (except for the two pairs around the doors), and the windows are rebated into the uprights on the straight bits but have separate frames around the curved front. All of this means that there are differences in the uprights to think about. The rebating I did with my milling machine (because I have it etc) which leaves rounded corners, but I will chisel these away (I have a ¼" bevel edge chisel of some age that takes and keeps its edge really well for this sort of thing) when I come to fit everything.

Eventually, I had a kit of parts that nominally will fit but will need 'titivating' as I fit them together. I have also started making the box below the base horseshoe that will hold the cupboards, dashboard, controls etc visible through the windows, mainly because I thought it would help prevent the horseshoe from twisting 'all by itself'. The photo shows all four horseshoes, the box on the bottom one, the roof beams on the top one (still in clamps) and the uprights grouped in the styles necessary.

One thing to take care of is the need to dye everything the right colour before gluing together as the dye takes less well to dried glue in the wood and it would be glaringly obvious around the wheelhouse if each joint had a splodge of light wood visible! So no rushing into the use of the glue yet except where it won't show....